Agreement on the Conservation of Albatrosses and Petrels

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Stocktake of measures for mitigating the incidental capture of seabirds in New Zealand commercial fisheries

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1. INTRODUCTION

Over 25 species of seabirds are incidentally caught in a wide range of commercial fisheries in New Zealand, including surface (pelagic) and bottom (demersal) long-line, deep-water and inshore trawl, and set nets. A significant amount of effort and resources has gone into developing methods to mitigate the incidental capture of seabirds in commercial fisheries both in NZ and overseas. A recent Southern Seabirds Solutions Trust (New Zealand) review collated key information about methods developed to mitigate incidental seabird mortality, with a particular focus on the development and testing undertaken for each. The purpose was to allow government and stakeholders to plan the type of support each mitigation measure may need and prioritise amongst them where needed. The review further aimed to inform fishers of the status of each of these mitigation measures.

The scope of the review included mitigation measures (device or fishing practice) that have potential application in New Zealand commercial long-line, trawl or set net fisheries, and including measures already in use in New Zealand fisheries. The mitigation measure related to any species of seabird caught in commercial fisheries in New Zealand. The status of mitigation measures discussed ranged from early prototypes (or practices) through to commercially available mitigation measures. The development and testing of the mitigation measure may be occurring outside New Zealand but have potential application in New Zealand fisheries.

The review assessed the extent to which each mitigation measure has been developed and tested against the ACAP criteria that defines best practice mitigation to reduce or eliminate the incidental mortality of seabirds in commercial fisheries.

2. CONCLUSIONS

From our review, we concluded that:

1. Some novel measures show promise and are currently undergoing testing.
2. For these, and several other more well developed measures, there is either only a limited amount of empirical evidence to support the efficacy of the method, or no evidence.
3. Some imitations of proven designs are available for commercial purchase but have not been tested. e.g. various types of sliding weights
4. Technology is commercially available that may harm seabirds whilst deterring them from attending vessels. E.g. lasers
5. The New Zealand interpretation of MARPOL may currently exclude some methods. E.g. dissolvable hook shields such as those used by the Smart Tuna Hook, and applying oil to water
6. Devices that require extensive engineering may be promising but multiple iterations of prototypes, and subsequent at sea trials, are expensive and time consuming. Unless there are dedicated teams with confirmed budgets these designs are challenging to progress.
7. Measures that are effective on large, comparatively fast setting/trawling vessels may require extensive trials to make efficacious on small, slower vessels (e.g. tori lines).

In addition, we reached the following fishery specific conclusions.

2.1. Pelagic (surface) longline

Nineteen mitigation measures applicable for use on surface longline vessels are described. Four of these measures (tori lines, night setting, line weighting and blue dyed bait) are used to varying degrees in New Zealand, but have limitations, either because of practicality, safety, cost or target catch concerns. The remaining methods are still under development or have never been trialled in New Zealand.

2.2. Demersal (bottom) longline

Ten mitigation measures applicable to bottom longlining were identified. Three of these measures (tori lines, night setting, line weighting) are used to varying degrees in New Zealand. Most vessels are able to use a tori line with the exception of a small number of inshore vessels that set their fishing lines at less than 3 knots, so the focus is on improving their ease of use. Line weighing is routinely used to target bottom dwelling fish, but determining the weight, weight spacing and float combination that works for both target catch and seabird protection on different types of vessels needs more attention, particularly because day setting occurs in all bottom longline fleets. Vessel setting speed is a significant factor in determining suitable line weighting regimes. Integrated weighted (IW) longline has proven to be effective when used in combination with a tori line but only a small proportion of the New Zealand autoline fleet use this gear type. The reasons appear to be cost, availability of the product in the required diameter, and difficulty in maintaining IW line off the sea floor (e.g. when fishing over rough ground).

As with surface longlining, a proportion of seabirds are brought aboard alive, so a focus on identifying when these captures occurs will lead to options for mitigation.

2.3. Trawl

Ten mitigation measures were identified for trawl fisheries; seven of the measures relate to reducing trawl warp mortalities and three to net captures. All measures except net binding and lasers are already used in New Zealand. With net captures, it is still unclear whether seabirds are caught when the net is shot away, or whether they are all caught when the net is hauled, and the extent to which seabirds are caught on top of the net or within the net. There are no mitigation measures in use, or proven to be effective for addressing net captures.

2.4. Set-net

Mitigation measures for set-nets are in the early stage of development outside New Zealand, and some such as LEDs show promise. There are no mitigation measures currently practised when set-netting in New Zealand, other than diligence when nets are being used.

3. FURTHER INFORMATION

We invite ACAP to make the Southern Seabirds Solutions Trust stocktake available as a resource for any interested Party or organisation.

The full stocktake report is available from the Southern Seabirds Solutions Trust webpage: https://www.southernseabirds.org/resources/commercial-fishers/